

Flatfish

North Sea

A vastly known Order species of the North Sea is the flatfish, revered for its role in the ecosystem and its commercial importance for fishing fleets (Lindebo et al., 2005; Cameron et al., 1992). A term used widely in scientific literature to describe flatfishes is

Pleuronectiforms, which consist of multiple sub-orders or families. These families are: Soleidae, Pleuronectidae, Bothidae, Scophthalmidae and Achiridae (Bañón et al, 2005). Each are phenotypically distinct from each other, however, are phylogenetically connected as their morphology and DNA-sequences suggest (Bañón et al, 2005). The North Sea harbours a significant variety of flatfishes due to the dynamic morphology of the region's marine environment. Flatfishes such as: Common Sole (*Solea solea*), Common Dab (*Limanda limanda*), Witch (*Glyptocephalus conynglossus*), Atlantic halibut (*Hippoglossus hippoglossus*) and European Plaice (*Pleuronectes platessa*) (Animalia, n.d.).



History/ Population trends

According to research conducted on the population history of Flatfishes in the North Sea, it is said that the southern region has long been considered to be a nursery for them. (van der Veer et al., 2022). This conclusion is drawn by the amount of juvenile pleuronectiforms found in this area of the North Sea, which were quantified by fishing records of bycatches. However, climate change is expected to alter the behavior of flatfish in the region due to the increase in temperature, which may lead to species migrating to colder waters earlier than expected at the onset of the seasons (van der Veer et al., 2022). Already there have been studies conducted on the relationship between temperature rise and flatfish migration, and the evidence suggests that a rise in temperature causes flatfish to shift their habitat further north (van Hal et al., 2010). In addition, research in the increasing density of wind parks has unearthed that they have the potential to greatly affect a variety of marine species (Barbut et al., 2020). This is said to be the case with flatfishes as well, since the data suggests that the windfarms are contributing to an increase in individual size within species of European Plaice around Belgian windfarms (Barbut et al., 2020).

Miscellaneous

- The largest species of flatfish is the Atlantic Halibut (*Hippoglossus hippoglossus*) (*Largest flatfish*, 2022). Atlantic Halibut can reach a size of 4.7m in length and females of the species can weigh up to 320kg, within a lifespan of 50 years (*Largest flatfish*, 2022). However, Age is not as much of a determining factor as food availability is (*Largest flatfish*, 2022).
- The first species of flatfish date back to the Palaeogene period, which spans from 66 million years ago, to 23 million years ago (Friedman, 2008).

Sources

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